

ing of finely powdered lime once in a while is acceptable to the Lastreas (except *dilatata*), the Polypodiums, and the Scolopendriums, and that about sums up feeding ferns so far as I am concerned. I know some people use Blank's celebrated fertilizers according to the instructions on the tins, and I know they can boast about the length and breadth of fronds produced, but they also have frequent reason to complain that this plant or that was grand last year, but something has gone wrong with it and it looks like going home.

Occasionally I have had a Polystichum or a Scolopendrium which has gone hard and stubborn in the crown, refusing to send up new fronds. A drenching with water in which sulphate of ammonia, $\frac{1}{2}$ oz. to the gallon, has been dissolved for six hours or more has been given, and growth has soon broken away, but having achieved that much no more has been given; it is all right to give a gentle fillip, but all wrong to whip and goad to second exhaustion.

***Azolla caroliniana* Willd. in Georgia**

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Azolla caroliniana Willd. was reported by McVaugh and Pyron¹ from Camden, Chatham, Echols, and Liberty Counties. Additional specimens now in the University of Georgia Herbarium add stations in Decatur (*R. F. Thorne* 17105) and McIntosh (*Duncan* 19969 from Sapelo Island) Counties. These and the previous collections seem to indicate that this species occurs only in the counties along the southern boundary and the Atlantic Ocean.

It was, therefore, of considerable interest to find in the July-September 1958 issue of the American Fern Journal a statement that the original supply of *Azolla* used in physiological studies was collected in northern Georgia by R. A. Benedict.² I wrote to

¹ McVaugh, Rogers and Joseph Pyron. 1951. Ferns of Georgia. University of Georgia Press, Athens, Georgia. 195 pp.

² Nickell, Louis G. 1958. Physiological Studies with *Azolla* under Aseptic Conditions. Amer. Fern Journ. 48: 103-108.

Dr. Nickell to obtain more precise information concerning the locality where the *Azolla* was obtained. He kindly sent dried specimens from the culture and stated (letter of 26 November 1958) that the original material was obtained from a roadside ditch near the main highway just before crossing the state line leaving Georgia. From additional correspondence it was learned that Mr. Benedict, to the best of his recollection (letter of 27 January 1959 from Dr. Nickell), obtained the *Azolla* about 20 miles before leaving Georgia on route #301. Examination of a highway map determines that the station in question is probably in Screven County of the central Coastal Plain.

For the present, therefore, it seems that this *Azolla* is not known from northernmost Georgia. Students should look for this species in northwestern Georgia, however, for it is reported by Shaver³ from an adjacent county (Bradley) in Tennessee.

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³ Shaver, Jesse M. 1954. Ferns of Tennessee. Nashville, Tennessee. 502 pp.

The Lycopodiaceae and Selaginellaceae of Iowa

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Until recently only four species of the Lycopodiaceae and one of the Selaginellaceae were known to be a part of the Iowa flora. None of these species is common in the state, but each has been collected at least once in the last decade. *Lycopodium clavatum* L. var. *clavatum* is known from three woodland stations in Johnson County, in the east-central part of the state.¹ *L. complanatum* L. var. *flabelliforme* Fern. has been collected from nine woodland stations in eastern Iowa. *L. lucidulum* Michx. has been collected from thirteen stations, most of them in wooded ravines and slopes in northeastern Iowa. *L. obscurum* L. var. *dendroi-*

¹ Statements of species distribution are based on specimens in the following Iowa herbaria: Davenport Public Museum, Grinnell College, Iowa State College, Iowa State Teachers College, and the State University of Iowa. Thanks are extended to their curators, Dr. L. F. Guldner, Dr. N. H. Russell, Dr. R. W. Pohl, Dr. M. L. Grant, and Dr. R. F. Thorne, respectively, for permission to study these specimens.